ERRATA

TABLE 3.2. Mean (SE) number and ranges of trees and snags in patches, cutover areas, and intact forest for the Grande Prairie study area (n is the number of patches/sites surveyed).

		Trees		Snags	
Patch Size	n	Mean (SE)	Range	Mean (SE)	Range
Large	4	415(70)	274 - 608	50(8)	27 - 60
Medium	16	97(7)	42 - 152	12(1)	4 - 22
Small	64	28(2)	8 - 54	3(0)	0 - 29
Cutover	24	15(7)	0 - 158	3(2)	0 - 35
Forest	8	372(141)	128 - 1161	54(20)	12 - 163

TABLE 3.3. Mean (SE) number and ranges of trees and snags in patches, cutover areas, and intact forest for the Whitecourt study area (n is the number of patches/sites surveyed).

		Trees		Snags	
Patch Size	n	Mean (SE)	Range	Mean (SE)	Range
Large	4	512(67)	371 - 686	79(19)	39 - 122
Medium	16	103(14)	11 - 217	17(3)	3 - 44
Small	64	30(3)	1 - 140	5(1)	0 - 20
Cutover	24	10(4)	0 - 66	2(1)	0 - 12
Forest	8	495(222)	130 - 2037	82(21)	41 - 226

TABLE 3. 4. Falldown rates (%) for each tree species in the experimental treatments during the first 2 growing seasons in the Grande Prairie and Whitecourt study areas.

	Grande Prairie				Whitecourt			
	Original No. Trees	1998 Falldown Rate (%)	1999 Falldown Rate (%)	Total Falldown Rate (%)	Original No. Trees	1998 Falldown Rate (%)	1999 Falldown Rate (%)	Total Falldown Rate (%)
Aspen	5990	2.2	10.2	12.1	532	4.2	16.7	20.1
Balsam Poplar	802	2.3	32.8	34.0	10	20.0	25.0	40.0
Paper Birch	64	3.3	21.0	23.4	817	6.7	31.8	36.1
White Spruce	261	17.5	20.8	34.5	676	19.2	20.1	34.9
Black Spruce	3	0.0	0.0	0.0	1864	14.3	17.5	29.1
Lodgepole Pine	3	0.0	33.3	33.3	4906	6.0	13.7	18.8
Balsam Fir	1	0.0	0.0	0.0	145	8.3	34.1	39.3
Larch	0	0.0	0.0	0.0	1	0.0	0.0	0.0

Client copy – not for citation or reproduction

TABLE 3.1. Pre-harvest percent species composition of trees and snags ≥1.4 m (≥4.6 ft.) in height in the Grande Prairie and Whitecourt study areas. Numbers in parentheses indicate the actual number of trees sampled.

		Trees		Snags	
Common Name	Species	Grande Prairie	Whitecourt	Grande Prairie	Whitecourt
Aspen	*Populus tremuloides*	81 (1937)	2 (79)	78 (222)	2 (22)
Balsam poplar	*Populus balsamifera*	8 (194)	0 (2)	16 (44)	0
Paper birch	*Betula papyrifera*	6 (137)	19 (726)	4 (12)	9 (87)
White spruce	*Picea glauca*	5 (121)	2 (74)	1 (2)	1 (15)
Lodgepole Pine	*Pinus contorta*	0	27 (1033)	0	34 (335)
Balsam fir	*Abies balsamea*	0	22 (828)	0	2 (17)
Black spruce	*Picea mariana*	0	28 (1070)	0	51 (507)
Unknown		0	0	1 (3)	1 (7)
Total		100 (2389)	100 (3812)	100 (283)	100 (990)

of trees and snags remaining in a patch was highly variable in both study areas (Tables 3.2 and 3.3).

Falldown Rates by Habitat Type

Overall falldown rates went from 2.8% one year post-harvest to 15.5% two years post-harvest for the Grande Prairie study area, and from 8.9% one year post-harvest to 24.2% two years post-harvest for the Whitecourt study area. Falldown rates increased significantly with decreasing patch size ($\chi^2 = 13.1$, df = 2, $p < 0.001$, $\chi^2 = 276$, df = 2, $p < 0.001$, for the Grande Prairie and Whitecourt study areas, respectively) (Fig. 3.1 and 3.2). However, for Grande Prairie, falldown rates were similar in medium (13.2%) and large (14.3%) patches. Stand-level falldown (i.e., falldown in small patches and the adjacent cutover sites compared to medium and large patches and their adjacent cutovers) exhibited a similar pattern ($\chi^2 = 9.6$, df = 2, $p < 0.01$, $\chi^2 = 278$, df = 2, $p < 0.001$, for the Grande Prairie and Whitecourt study areas, respectively) (Fig. 3.1 and 3.2). There were no significant differences among falldown rates for trees in the cutover areas outside of small, medium, and large patches ($\chi^2 = 0.01$, df = 2, $p = 1.0$, $\chi^2 = 1.1$, df = 2, $p = 0.57$, for the Grande Prairie and Whitecourt study areas, respectively; Fig. 3.1 and 3.2). Because there were no significant differences among stands for falldown rates in the cutover areas, these numbers were pooled across patch sizes and used in comparisons with falldown rates in forest sites and from residual patches. Falldown of all species combined increased significantly with decreasing patch size beginning with forest sites and ending with cutover sites ($\chi^2 = 360$, df = 4, $p < 0.001$, $\chi^2 = 996$, df = 4, $p < 0.001$, for the Grande Prairie and Whitecourt study areas, respectively) (Fig. 3.3 and 3.4).

Falldown Rates for each Species

Falldown rates for individual tree species were calculated by dividing the number of trees fallen by the original number of trees present, then converting the result to a percentage. In 1998, white spruce had the highest relative falldown rate in the Grande Prairie study area (17.5%), whereas in 1999 the falldown rate of deciduous species increased with balsam poplar and white spruce having the highest falldown rates for the two years combined (34% and 34.5%, respectively; Table 3.4). In 1998, in the Whitecourt study area, white spruce had the highest falldown rate (19 %) omitting balsam poplar which had only 10 trees sampled. However, after two years, balsam fir, paper birch, and white spruce all had high falldown rates (39%, 36%, and 35%, respectively; Table 3.4).

Client copy – not for citation or reproduction